THE KEEPER

BÉLA J. DEMETER

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NOVEMBER - DECEMBER
1973

American Association of Zoo Keepers

AMERICAN ASSOCIATION OF ZOO KEEPERS

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EDITORIAL

This issue as you will notice, is devoted to members from California (except, of course, Ed Roberts' Keepers Korner). The keepers from L.A. Zoo have been very responsive to THE KEEPER. I hope in the next year, we can devote issues to other parts of the country. Articles that you take the time and effort to write will be published. Articles printed in THE KEEPER are edited for grammatical corrections only (we want your article, not the editors'). In addition, please send along a black and white photo of yourself with all article submissions. Finally, when an author asks for a response, please cooperate by sending your views on the subject, whether they be good or bad.

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Dear AAZK Chapter:

As you know, the annual convention of AAZK will be held in Chicago, April 22-25, 1974. All the major plans are made and it looks interesting—worth the trip!

At that time, a conference program book will be made available—as with most conventions—to keep things organized. To finance the printing of this book, each chapter or any individual may purchase advertising space. The space may be used for good wishes or whatever message is desired.

The booklet will be 7" by 8". The rates are $1.00 per line, $15.00 per ¼-page, and $25.00 per ½-page. Messages and/or copy should be sent to:

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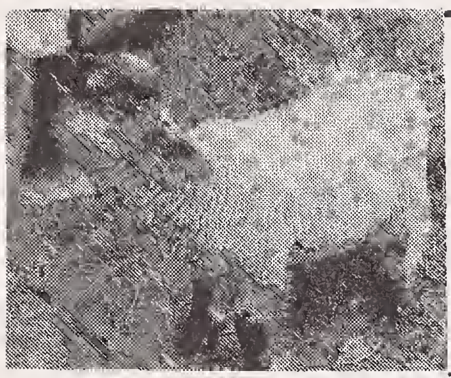
All checks should be payable to AAZK. The deadline is February 1. Any funds collected from advertising above and beyond the cost of getting out the program will be put into the general fund to meet expenses of the convention.

This is really a good way to communicate with other chapters, support the convention, or just see your name in print.

We'll be looking forward to hearing from you!



Hand-raising Hoofed Animals: Part I

By Steve Taylor, Los Angeles Zoo

INTRODUCTION

A few years ago, Caroline Jarvis (1965), then editor of the International Zoo Yearbook, asked her colleagues to submit information for a foster-mother survey to be printed in a subsequent volume of the yearbook. The next year, she had to report that she was postponing the survey indefinitely because there was insufficient information available on foster-mothers for captive animals. Even now, information on hand-raising techniques and behavior of captive hand-raised animals is scattered and collective information is not to be found. Behavioral responses in hand-raised infant monkeys has been studied by Harlow and Harlow (1965). Imprinting, a unique learning process whereby young animals form an attachment to a "mother-figure", has been studied mainly with birds, but also with certain mammals such as dogs, rhesus monkeys, and goats. Because adult behavior can be dependent on an animals rearing, more research is needed on this subject.

There are a number of reasons why hoofed animals are hand-raised in the zoo. Most zoos, such as the Bronx Zoo (Dolensek, 1967), hand-raise young animals only when it is necessary for survival. Occasionally young females, lacking any previous experience, will reject their young. Hediger (1955) reported that a young female giraffe appeared to be afraid of her new calf and therefore, did not raise it. He suggested that the first birth if often just a "dress rehersal" for young and inexperienced females.

When a female becomes sick or dies as a result of parturition, zoo workers are often forced to hand-raise a newborn animal. Sometimes unhealthy or injured young are born. As part of the process of natural selection, these animals are often rejected by their mothers. It is very gratifying when the zoo staff can take these young animals and hand-raise them to become healthy and productive adults.

Problems associated with confinement and captivity can cause females to reject their young. Some ungulates become frightened and reject their young due to confinement in relatively small barns or paddocks where they are isolated for delivery. Some ungulates must have seclusion from the rest of the herd, especially away from the male.

During the last decade, the Oklahoma City Zoo (Lentz, 1969) began hand-raising all newborn hoofed animals that were destined to be sold or traded to other zoos. They proposed that hand-raised hoof animals would do better in transit since these animals, through the process of hand-raising, would become accustomed to human noises, odors, and movements. Most hoofed animals are subject to sudden panic and many have fatally wounded themselves while confined in small crates during transit. Several other zoos, which had lost animals in transit, began hand-raising newborn hoofed animals that were to be sold. The Los Angeles Zoo (Emerson, 1972) has a policy of hand-raising these surplus hoofed animals. If the young are not to be sold or traded, then efforts are made to leave them on exhibit with their mothers.

A unique situation occurs at the Askanya-Nova in Russia (Treus, 1971) where they have been hand-raising eland (Taurotragus oryx) since the post-war period. These eland have been domesticated and are tame enough for milking. They postulated that hand-raised calves were more manageable than the ones which were reared naturally.

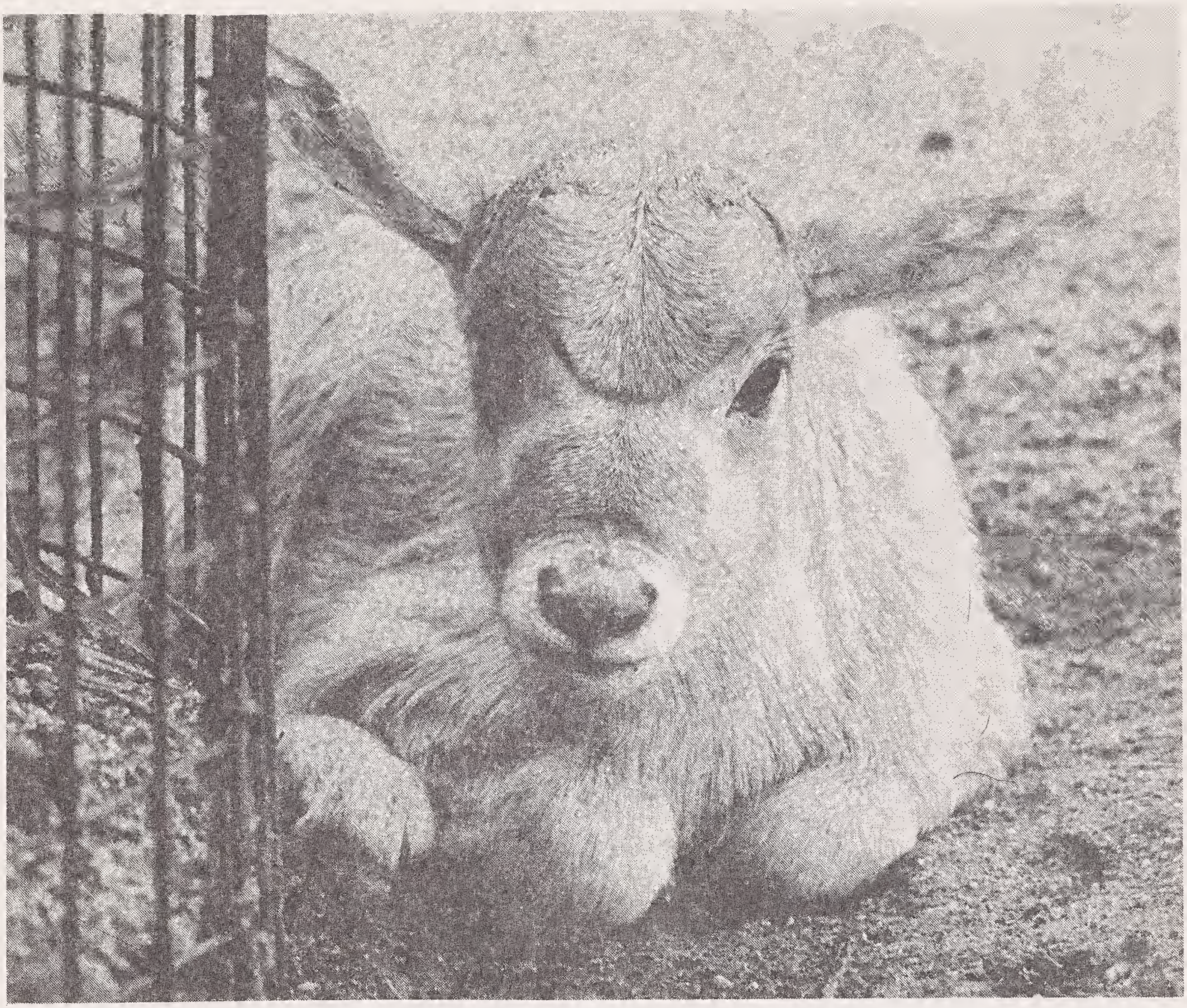
Pinter (1962) noted that although young hand-raised roe deer (Capreolus capreolus) are sometimes manageable, as adults, they can be very dangerous. To a hand-raised adult deer, the human foster-mother is not someone to flee from, but a rival of its own species.

More hoofed animals will be successfully raised when more information is available on hand-raising techniques. Milk analysis charts are available for certain hoofed animals. These have provided zoo veterinarians with information that has made it possible to match commercial products with the animal's own nutritional needs. Research is lacking on behavioral and genetic aspects of the use of foster-mothers for captive animals. Because many hand-raised hoofed animals are sold or traded to other institutions, zoo curators do not have the opportunity to study the adult behavior of these animals. It will be interesting to discover, if, as adults, hand-raised hoofed animals breed, have problems raising their own young, acclimate to their new enclosure, and adjust to a new herd.

GENERAL CONCEPTS AND METHODS

Since man began raising animals for milk and meat, he has considered it his responsibility to care for orphaned young. Today, mother's milk can be provided for orphaned animals of domestic stock. However, young exotic hoofed animals do not have the same nutritional needs as domestic animals. Some exotic hoofed animals require low fat diets: others can tolerate milk with a relatively high fat content All types of commercial milk and milk products are used by veterinarians to match the animal's own nutritional needs.

Zoo workers and wildlife biologists have had opportunities to milk various species of lactating animals. Through analysis, milk composition has been found and reported. Animal milk analysis charts which show percentages of fat, protein, carbohydrate, ash, and total solids of a milk sample are available (Lyall-Watson, 1962). Because these percentages are only relatively constant, varying even in the same animal from day to day, they should not be considered absolute. Sowls (1961) showed



that the colostrum of a female collard peccary (Tayassu tajacu) contained 4.8% fat, 5.2% lactose, 6.0% protein, and 18.2% total solids. Another milk sample was taken from another female peccary eighteen days after parturition and the values were found to be 4.0% fat, 6.4% lactose, 5.1% protein, and 16.7% total solids. More milk samples will have to be analyzed before we have the complete picture showing the normal range of values. The milk analysis chart presently gives the zoo veterinarian only an idea of a young animal's nutritional needs.

The first few days of a young animal's life are critical to its health and behavior. Scott (1964) noted that socialization with hoofed animals occurred during this period. For instance, hand-raised lambs which were taken from their mothers during the first few days of life had little chance to attach themselves to their mothers, but became very attached to their foster-mothers. Pinter (1962) found this imprinted behavior with male fawns which would "dog" their keeper's footsteps until after the first rutting season.

The first few days of a young animal's life are also important because during that time, it can receive important immunity factors from the mother's first milk (colostrum). If possible, newborn hoofed animals should be left with the female for 24 hours. In this way, they have the opportunity to get some colostrum. If a young animal is left with the mother for more than 48 hours, socializstion will occur and it is likely that the animal will refuse the foster-mother. Some zoos have used fresh cows colostrum for the first few feedings of young hoofed animals. Savoy (1966) reported that one of the reasons for the successful rearing of a young giraffe (Giraffe camelopardalis) at the Columbus Zoo was the use of cow's colostrum for the first 48 hours of the calf's life. On the other hand, Fransen (1972) informed me that the Los Angeles Zoo no longer uses cow's colostrum since its advantage is dubious because the antibodies in the colostrum of cows living under sanitary dairy conditions are not necessarily the same antibodies found in the colostrum of exotic species.

Several larger zoos have set aside areas specifically designed for hand-raising hoofed animals. The Oklahoma City Zoo (Lentz, 1969) raised many of their hoofed animals in the nursery kitchen. By leaving the young hoofed animals in the kitchen and exposing them to constant human noises and movements, the animals became accustomed to humans more readily than if they were isolated away from this daily activity. The Los Angeles Zoo, which in the past kept young hoofed animals in the nursery, now uses an outside compound in the Children's Zoo. The compound has a heated barn for the animals at night and a fenced yard for daytime use. The young hoofed animals are kept in this compound until weaning and then are sent to the main zoo or sold to another zoo.

Equipment necessary for hand-raising hoofed animals is minimal. Various types of bottles are used, including "Coke" bottles, human baby bottles, plastic detergent bottles, and various types of toy doll bottles. Commercially available calf and lamb's nipples are utilized, although some smaller deer and antelope take a human baby bottle nipple. Sterilization of bottles and equipment is essential for raising any young animal. At the Los Angeles Zoo, bottles and utensils are sterilized by submerging them in a solution of two percent chlorine for a full two minutes and then allowing them to drain and dry. Autoclaves can be used but are costly, especially when one considers that a very large one would be needed to accommodate the large bottles used in feeding hoofed animals.

In addition to adequate diet, proper equipment, sanitation, and spacious facilities, we must consider milk temperatures, stimulation of anal area to encourage defecation, adequate warmth, sunlight, exercise, innoculations, and proper veterinary care when hand-raising hoofed animals. Specifically trained personnel often make a hand-raising program more successful. Hoofed-animals become accustomed to one or maybe two foster-mothers, but have difficulty adjusting to a different one everyday.

Part II of Steve Taylor's "Hand-raising Hoofed Animals" will appear in the Jan./Feb. 1974 issue of the KEEPER.

Keeping Kingsnakes

By Ronald G. Markel, Los Angeles Zoo

Kingsnakes (*Lampropeltis*) are one of the most widely distributed groups of harmless snakes. Extending from Canada southward into Equador, their range covers virtually all the United States. Almost fifty subspecies have been identified. Some of the Eastern Kingsnakes may reach a length in excess of 6-feet. Others such as the Scarlet Kingsnakes, reach adulthood at 20-inches. The varied patterns and rich colors make them, by far, the most displayed groups of harmless snakes.

One of the interesting points is the feeding habits. All Kingsnakes are cannibalistic. They will not only eat other snakes, but are the only snakes immune to the bite of rattlesnakes. Their diet makes them one of the easiest snakes to maintain in captivity. As well as warm-blooded prey such as rodents and birds, they will also consume frogs, lizards and as mentioned, snakes.

If you should have trouble feeding, try a larger or smaller cage; environment is an important factor. Be sure they have a suitable hiding place. Plenty of available water is essential. Vary the diet, both live and dead prey and different types of prey. If you have tried a selected diet, then it may be the snake and not the food offered. A snake may be gravid and not feed. A new snake may be active and not feed out of excitement. Time alone may bring a snake to hunger. Pre-ecdysis or shedding will also cause a hunger strike. Young snakes seem to take food more readily than adult snakes; maybe their need for food is greater. Avoid force feeding; it may cause injury or dependency. Enticing a snake with dead food by means of forceps is helpful. The preferred method is feed the snake the meal, head first, be it a mouse, lizard or baby chick. The snake may strike out of retaliation and seize the prey. By rubbing the snake's sensitive points, labial plates (lip), neck area and tail, may encourage the snake to feed.

If your specimens are kept dry and warm, they should do well in captivity. Temperature ranges between 75 and 85 degrees is good. A fluctuation in temperature may cause regurgitation or stomach problems.

In wintertime or semi-hibernation, the need for food is reduced. The diet will vary from snake to snake during this period. If too much moisture should get into your cage and the problem is not rectified, you may run into problems, such as respiratory infections, pneumonia or skin blisters or belly rot may develop.

Another problem of captive snakes is parasites. Ticks and mites may carry a bacteria that will kill a snake. There are several products on the market such as "No Pest Strips" and flea or mite powders. Do not use anything containing D.D.T.; you might end up with a dead snake. Follow directions and be very careful on useage.

Like most snakes, Kingsnakes mate in the spring of the year and are oviparous. Eggs are laid in the spring, summer and fall months. However, control conditions of captivity may produce eggs anytime of the year. If you have a batch of eggs, you will probably want to try to hatch them. A successful method is trying to hatch eggs in wood shavings. Moisten a 3-inch layer of wood shavings and place the eggs the way they were laid on the shavings. Do not separate any eggs that are stuck together and do not rotate, disturb or alter the position of the eggs. Cover the eggs with moist shavings and change the top 3-inch layer every week to prevent fungus or mildew. Keep the container covered with a sheet of glass or plastic, but leave a crack for air. If the eggs are fertile, they should hatch in 2 to 3 months. Newborn Kingsnakes are 6 to 10 inches in length. Baby snakes shed their first skin in a few days to a weeks time. They are born with a specific amount of "yolk" to live on for several days until their first meal. Newborn Kingsnakes should be separated and fed separately. Do not try to overfeed; a newborn mouse or "pinkie" mouse or lizard a few times a month should suffice. Of course, each snake will vary somewhat.

If you should have too much difficulty with captive or newborn snakes, they should be released. A pair for exhibition and a back up is more than enough. Returning a snake to the type of environment from which it came is very important. If a snake is doing poorly in captivity, let it go; most Kingsnakes can be replaced fairly easily. There are some laws in certain areas protecting Kingsnakes and many are becoming endangered due to over-collecting and by upsetting their habitat, so let's please try to be considerate to these harmless, gentle creatures.

ZOO REVIEW

By Pat Stout, Associate Editor

Here are two new publications that provide useful information on the care of captive reptiles.

Both of the following publications are available from Ralph Curtis Books, 2633 Adams Street, Hollywood, Florida 33020:

Reptile Cages You can Build With Notes on Captive Care, by John O. Truitt, 1973, softbound, 60 pps., $2.95.

Gives detailed plans and instructions on how to build four kinds of well-designed reptile cages, including the proper installation of heating lamps. Also, there is a chapter on the care of captive reptiles.

Reptilian Diseases: Recognition and Treatment, by J. S. Dobbs, 1973, softbound, 42 pps., $2.95.

Explains how to recognize and treat many of the diseases, parasites, and dietary disorders of reptiles; and includes a chapter on the basic principles of housing and maintaining reptiles.

Tapirs in the United States

By Robert and Sheryl Wilson, Tapir Research Institute

Of the over two-hundred zoological institutions in the United States, approximately sixty are currently keeping members of the genus Tapirus. (Tapirus terrestris, Tapirus indicus, Tapirus bairdii, Tapirus pinchaque).

There are about forty pair of T. terrestris, thirteen pair of T. indicus, two groups of T. bairdii and two zoos—Los Angeles Zoo and Gladys Porter Zoo-are currently exhibiting the rare Mountain tapir, Tapirus pinchaque, as well as the other three species.

Tapirus terrestris, called the South American tapir, or Brazilian tapir, is the most commonly found tapir in American Zoos. There are approximately one-hundred of these animals in the United States. The Brazilian tapir has attained a longevity of approximately thirty years in captivity and a single pair produced seven offspring over a period of more than a decade.

The pas year has seen the birth of eight calves and the death of thirteen of this species. However, it must be pointed out that most of these fatalities were non-viable births.

The South American tapir is still reasonably abundant in parts of its range. However, the recent colonization of the Amazon basin, sponsored by the Brazilian government, seriously threatens the species in one of its strongholds. Since the Endangered Species Conservation Act went into effect in June of 1970, only three Brazilian tapirs have been imported into the United States. It is of interest that 44 Brazilian tapirs were imported in the first six months of 1970 before the law went into effect.[1]

The South American tapir is generally considered a docile animal, however, it is subject to violent fits and a number of keepers have been injured by these "docile" animals.

Tapirus indicus, commonly called the Indian tapir, Malayan tapir, or Saddle-back tapir is the only one of the four species found in Asia. There are about forty of these animals in the United States. As with T. terrestris, the longevity is about thirty years and several zoos have established pairs that produce offspring regularly about every two years (the gestation period being 395-410 days).

The Malayan tapir is found in Lower Burma, the Malay Penninsula and Sumatra. There is reason to believe that this tapir is becoming rare on the mainland, while little is known of its status on Sumatra. As in the cases of the other three species of tapir, little is known of its habits in the wild. The Malayan tapir is protected in National Parks in small areas of its range, however, it must be noted that it is the only species of tapir whose importation is not restricted by the United States Government.

The Malayan tapir is probably the most visually interesting of the tapirs because of its size (it is the largest of the tapirs) and its striking black and white coloration.[2]

The Malayan tapir is an attractive, docile animal. Unfortunately, for exhibition purposes, it is the most nocturnal of the tapirs.

Tapirus bairdii, the Central American or Baird's tapir, is the largest of the American tapirs and probably the least known.

There are fourteen Baird's tapirs in the United States. Unfortunately, ten of these are males and only four are females.[3] These numbers include two males held by a dealer.

The Los Angeles Zoo and San Diego Zoo each have a group of four of these animals and for the first time in the United States, the animals have been bred. The San Diego Zoo had a male born on November 14, 1971, and as of July, 1973, it was healthy and growing. The Los Angeles Zoo has had two births of Baird's tapirs–on December 21, 1970 and July 15, 1973. Tragically, both of these calves were stillborn.

The range of the Central American tapir has been the victim of constant human expansion and the animal is now extinct over much of its former range. Its importation is forbidden by the United States Government, and only three permits for importation have been issued since 1970.[4]

The female Baird's tapir is generally mild mannered, but the male can be a different case altogether. The author was witness to an incident in which a male Baird's tapir put three people into the hospital.

Tapirus pinchaque, the Wooly or Mountain tapir is the rarest of tapirs, both in the wild and in captivity. As previously mentioned, there are pairs of wooly tapirs at both Gladys Porter Zoo and Los Angeles Zoo. The only birth of a zoo-bred wooly tapir took place at the Los Angeles Zoo on October 16, 1970–unfortunately a stillbirth. No mountain tapir has been imported into the United States since 1970.

The mountain tapir is found in isolated high valleys of the Andes Mountains. This isolation and the relative high cost of capture is, at least temporarily, protecting this animal's status in the wild. There was a flurry of interest in the Mountain tapir during the decade of the sixties. There were about thirty to thirty-five animals imported during this period. Of these, only about one-third survived for more than a year. However, most of the major problems of keeping these animals have been solved. Several excellent articles have been written on the mountain tapir in captivity and in the wild.[5]

Anyone who has stood near a tapir compound and listened to the public bestow names on these animals (aardvark, pig, anteater, armadillo, bear, etc.) realizes that the tapirs are not the best known of zoo animals. They are neither beautiful nor cute, gigantic nor ferocious. They do not have the human characteristics of monkeys and apes that are so fascinating to Homo sapiens. For these and other reasons, (tapirs are not terribly active for large portions of the day) the tapir is not a prime zoo exhibit, but nevertheless, it is an ancient and rare genus that deserves our interest and appreciation in the form of a concerted effort to insure their continuance in captivity and in the wild.

The Tapir Research Institute is interested in and requests any and all information on tapirs in American zoos, especially the observations and opinions of the people who handle these animals on a day-to-day basis. We are more than willing to entertain and answer all questions to the best of our ability.

Schreiner, Keith M., Chief, Office of Endangered Species and International Activities (in personal correspondence).

In 1924, the Rotterdam Zoo received several adult Malayan tapirs, one of which was an all-black specimen. A few months later they received several juvenile tapirs in the stripe phase. One of these juveniles, as he lost the stripe pattern, became an all-black animal. Both of these specimens came from the Babat district of Sumatra.
K. Kuiper in "The Proceedings of the Zoological Society of London", 1926.

There is a female tapir at the San Francisco Zoo that is a *T. bairdii* x *T. terrestris* hybrid. Paul D. Maxwell, Zoologist, San Francisco Zoo, (in personal correspondence).

One of these died three weeks after its arrival. Schreiner, Keith M., Chief, Office of Endangered Species and International Activities (in personal correspondence).

Schauenberg, Paul, "Contribution to the study of the Tapir pinchaque", Museum d'Histoire Naturelle de Geneve (in French).

Stummer, Martin, "The Wooly tapir (*Tapirus pinchaque* Roulin) in Ecuador Zoologischer Garten, N.F. Leipzig, Vol. 40, 1971 (in German).

Freidrich, Hans, "On the Capture of the Wooly Tapir", Zoologischer Garten N.F.Leipzig, Vol. 40, 1971 (in German).

These three articles have been translated into English by the Tapir Research Institute; we are currently trying to raise funding for limited publication and distribution of these translations.

NEWS FROM OVERTON PARK ZOO, MEMPHIS

On September 4, 1973, Clifford Ross, Curator of Birds at Overton Park Zoo, reported 2 hatchlings in the grey-necked bald crow cage at Overton Park Zoo. This is thought to be the first hatching of bald crows in the United States. Unfortunately, the young did not survive. A post-mortem was performed and revealed bacteria as the probable cause of death. The pair are now nesting again and with the addition of antibiotics to their diets, hopefully, they will be successful in rearing young this time. Andy Vernon, President Chapter 31, Overton Park Zoo, Memphis, Tenn.

Indian and Sumatran Rhinos in Captivity

By Michael Dee, Los Angeles Zoo

The Indian rhino is one among many animals listed as an endangered species by the I.U.C.N. because of widespread habitat destruction. The belief that the horn has aphrodisiac qualities for man only adds to the problem.

Indian rhinos have been kept in captivity since Roman times. The first Indian rhino to be exhibited in a zoological park was purchased from P.T. Barnum's Great Roman Hippodrome by the Philadelphia Zoo in 1875. This particular animal lived 26 years in the zoo. This species can attain 50-plus years and weigh 8,000 pounds, with an average weight of 4,000 to 5,000 pounds. The males become sexually mature at 7-9 years and females at 3-4 years.

The young female at the Los Angeles Zoo came into oestrus for the first time in January of 1973. She was purchased in 1969 at the approximate age of 3-years (although I believe she was much younger due to her apparent small size and weight). This means she would be almost 7 years before she had a heat period; this differs from Lang's observations by 3 years. I've been the keeper on the Indian rhino string for over 3 years, and did not see any signs of a heat period until January. As far as I can determine, her cycles are every 48-days. At no time did she spray her urine horizontally as had been seen in our other female (now dead). The heat periods have only lasted 1-day and she makes the characteristic high pitched "whistle". During her heat periods, she is not interested in food, possibly one more sign to indicate oestrus.

The first recorded birth of this species in captivity was in 1925 at the Alipore Zoo in Calcutta, India. This animal did not live very long (a few hours) and it wasn't until 1956 that this species was bred and raised in captivity. Since then, about 20 have been bred in zoos worldwide. So far, the only birth recorded in the U.S. was a stillborn female at the Milwaukee Zoo in 1967. To my knowledge, this is the only "captive-bred" pair in the world to produce offspring, even though stillborn.

The average gestation is about 477 days, with fetal movements visible about 340 days (Lang). Because of this long gestation, females can only raise young every 2-3 years. At birth, juveniles weigh between 130 and 150 pounds. Milwaukee's stillborn weighed 125 pounds.

The Indian rhinos at the Los Angeles Zoo are fed once a day and they receive oat hay, apples, herbivore pellets, lettuce, selery, carrots and grapes. Crandall states alfalfa hay and bread plus assorted fruits and vegetables. Our male receives 6 large flakes of hay and the female receives 3 flakes.

The following U.S. zoos now have Indian rhinos on exhibit: Brownsville, Los

Angeles, Miami, Milwaukee, Omaha, Philadelphia, San Diego (San Pasqual), and Washington D.C. Other U.S. zoos that have exhibited Indian rhinos in the past but no longer do are: Cincinnati, New York, St. Louis, Busch Gardens (Houston) and Brookfield.

I would like to thank Mr. Marvin Jones and Mr. Russell Mittermeier for the translations of Dr. Lang's work.

The Sumatran rhinoceros is the smallest living rhino; mature specimens are rarely over 4½ feet at the shoulder. The weight is about 1 ton and 8 to 9 feet long. as compared to the Indian rhinoceros (*Rhinoceros unicornis*) at 2-3 tons and 14 feet long. This species is the only Asian rhino with two horns and hair clearly visible on the body, although the hair is reported to thin out as the animal matures. The anterior horn grows to a maximum of 15-20 inches in adult males, but the posterior horn is usually only a small protrusion or appears to be lacking altogether (the author has pictures of Sumatran rhinos taken in the wild that will attest to this). Three subspecies are recognized (Groves and Kurt 1972)

This species is one of the rarest mammals alive today; estimates vary between 100 and 170 individuals left. This is due, no doubt, to habitat destruction and again as all the rhinos (especially the Asian species) are being destroyed for the "fabled" value of the horn. Less than 100 years ago, this species was considered "common" in some parts of its range. Its former range included parts of India and Pakistan, all of Burma, Thailand, Cambodia, Laos, Viet Nam, Malaya, Sumatra and Borneo. Now, it can be considered extinct throughout most of its former range.

All rhinos love to wallow, and the Sumatran is no exception. Talbot (1960) observed wallows 6 to 12 feet long and 3-5 feet wide, most of which were found on steep slopes. A picture in Animals Magazine (no date) shows a Sumatran rhino that was captured at the same time as "Subur", the famous Copenhagen rhino in a wallow completely covered with mud, only the nostrils are plainly visible. These rhinos are reported to feed in the early and late hours of the day, spending the better part of the day in a wallow.

At the present time, there are no Sumatran rhinos in captivity. "Subur" of Copenhagen Zoo, died in 1972. "Subur" was captured in 1959, along with two other females and a male near Pekanbaru, Western Sumatra. The male escaped, and the females went to Basel (died in 1963), Bogar, Java (death date unknown), and Copenhagen. The last Sumatran rhinos to be exhibited in a zoo in the U.S. was the Bronx in 1902; it was on display for 9 months and then sold to the Ringling Brothers Circus. The Philadelphia Zoo bought a pair in 1952, but these both died before reaching the U.S. The species is somewhat unadaptable in captivity, most living only a few years, although one was reported to have lived for 32 years in the London Zoo.

Oddly enough, the Sumatran rhino was the first rhino to breed and produce offspring in captivity. This happened in 1889 in the Alipore Zoo in Calcutta, India. Two other births have occured, to females bred in the wild; one of the calves was born in the docks at London! Apparently, no one has the correct gestation period of this species; 7 months has been given which is much too short when comparing the other species (15-28 months).

Food consists of fruit, leaves, twigs and bark in the wild. In Copenhagen, "Suburs" diet consisted of beets, apples, alfalfa hay, a loaf of rye bread and a few bananas.

As previously stated, the Sumatran rhino is a very rare mammal; only 55 animals have been observed in captivity. The *Dicerorhinus* genus gave rise to all the living *Rhinocerotidae* and it closely resembles certain *Miocene.* In this, it can be regarded as a living fossil How will mankind insure the survival of this rare and endangered species? Indeed, how will he insure the survival of all species of animal life?

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EUROPEAN ZOO KEEPER ASSOCIATION IN THE MAKING

Dick Sweeney, AAZK Hq., has been assisting Mr. Frans Witbols Feugen of Ederveen, Holland, in the initial steps of developing a European Keepers association. Mr. Witsbol Feugen will leave for England (from Holland) in December to meet with zoo directors and keepers to formulate an organizational committee. AAZK wishes EAZK a very successful beginning, and each of us affilliated with AAZK can be proud of this international influence that our organization has stimulated. News of EAZK will appear in future editions of THE KEEPER.

KEEPER'S KORNER

by Ed Roberts, Stone Park Zoo

THE KEEPER AND THE PUBLIC

This is the third in a series of articles focusing on the relationship of a keeper to his animals, management, the public, his superiors, other keepers and finally himself.

Well, if you have followed our hero in the last two volumes, you will have found out that he has come a long way to attain status. He can now converse with some intelligence on animal matters with his subordinates, his peers and the general public.

Ah, yes, the public. That breed of wonderful do-gooders whose idea of a fun day at the zoo is to go there to feed, harass, annoy, spit at, throw things into, at and on the poor animals. Usually, most zoos have certain feeding schedules for certain animals and it is usually posted in a conspicuous place near the entrance or by the exhibit informing the public of the times when they occur. Most of them enjoy watching the antics animals go through when they are eating. They love to watch the big cats tear into their food and immediately start devouring it. Which is o.k., but when the foolish idiots start heaving popcorn, peanuts, cardboard boxes plastic peanut bags, bread, carrots, cucumbers, cigarettes, rubber balls, cans, bottles, toys, rocks, dolls, etc., etc., etc., something is wrong somewhere. Signs do not mean a thing, not a damn thing anymore. More than a few times, our concerned keeper has remonstrated a careless visitor and the resulting harangue went something like this. Our hero, “Hey, Mister, (or Miss or Mrs. or Mam or Kid), kindly don’t feed these animals, they are on special diets and what you’re giving them may cause some gastric disturbances in their systems. Most people will back off, say how sorry they are and that’s that. But, there are those that come back with a retort that is just as goofy as the guy or gal that says it. It goes like this, “Hey, Pal, I’m a tax payer and part of my taxes go towards your pay so knock off the small talk. I do what I want here.” Now, our hero is about to belt the crud. Man, He’s boiling mad, but he keeps his cool and gently but firmly tells the idiot, “If you don’t stop what you are doing, I’ll have you escorted out the zoo by an officer.” Well, most of the time it works, Many times our keeper has heard more than a few curses thrown at him, but he shrugs it off. No sense in getting involved with nut cakes, he figures. Our hero realizes that most of them mean well and hell, a little lettuce or carrot for his ungulates is not going to upset their metabolic balance that much. He also realized that private zoos, on the whole, do not have this problem. It appears confined only, to the municipal, county and state zoos, where the admission is free. Private zoos make sure food is eaten in an area away from the animals and if they do wish to purchase food for the animals, it has to be something that is natural to its diet, like grain or pellets coming out of a vending machine. This can serve a two-fold purpose. The animals get what they usually have in their diets and the zoo makes a buck on the sales. To asses fines on law breakers would be difficult. It sppears that the only man left to try and educate the public would be the keeper himself. He is the one who is first on the scene, sees the infraction, apprehends the offender, and firmly tells that person that what he is doing is injurious to the animals' health and if that animal died, it could very well be that person's responsibility and not the keeper's. This, our keeper has found, usually gets the results he wants, although many times, he feels like throwing the culprit into a moat and letting the animal "reason" with him.

The main thing our hero has found out is that the majority of people who visit a zoo are zoo-oriented. They will adhere to the standards and rules set up by zoo officials and enforced by the keepers. But, our animal keeper must keep his eyes open and ever alert, to those few who in their inconsiderate empty-headed way, believe that animals, reptiles and birds cannot be hurt by feeding them their scraps of food. Our keeper is the best defense against the offense of the unthinking public.

CLASSIFIEDS

Assistant Curator of Mammals, San Diego Zoo. Write to Mr. Clyde A. Hill, Curator of Mammals, P.O. Box 551, San Diego, California 92112.

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The Palawan Peacock Pheasant

By Mickey Barrett, San Diego Zoo

The Palawan Peacock Pheasant (*Polyplectron enphanum*) is perhaps the most beautiful of the representatives of the genus Polyplectron (which is represented by six species and six sub-species). The natural habitat of this species is restricted to the island of Palawan in the Phillipines. There is no real clear information on the status of the population in the wild state, although there are some who believe that they are not uncommon in deep forest at moderate altitudes. However, since the population seems to be low, it has been placed in the Red Book List of Endangered Species maintained by the International Union for the Conservation of Nature.

The Palawans were first seen in captivity in 1929. The following year, a pair in Mr. J. V. Patton's collection produced five eggs, of which two chicks were hatched and the first breeding record was scored. Mr. Patton made an interesting note, that the incubation period was eighteen days compared to twenty-one days as in the other species of Peacock Pheasants.

Since 1930, a large number of specimens were imported to the United States and Europe. However, at the present time, the importation of this species to the United States has slowed down, due to the fact that it is now required to apply for a special permit from the United States Department of the Interior, since it is an endangered species.

The female Palawan will produce two eggs per clutch. In most cases, they will be removed from the nest and placed under a broody bantam hen or in an incubator, in hopes that the Palawan hen will produce more eggs. When the Palawan chicks are first hatched, they are very delicate and timid, and rarely start eating on their own. If they were hatched under a broody bantam, she would teach them, while if they were hatched in an incubator, they must be hand fed, until they start eating on their own.

At the present time, a majority of Palawan eggs produced prove to be infertile. But, of those that do hatch, all will be closely related, which in turn, will produce a weaker bird. There are only a few zoos and private collections producing Palawan, but hopefully, this number will increase. At present, a private breeder in Arizona had the good fortune of producing six young birds in 1972, from two unrelated pairs.

Presently, the San Diego Zoo has two males in their collection; hopefully, in the future, they will be able to obtain two females to pair with them, and at that point, try to make a real effort to propagate this beautiful bird in their collection, so that generations to come, will have the chance to see a live Palawan Peacock Pheasant, rather than going to a museum to see only a representative of an extinct species.

BEHIND THE GUARDRAIL

Edited by
Larry Sammarco, Lincoln Park Zoo

Editorial Comment. I would like to take this opportunity to personally wish all members and friends of AAZK a happy and healthy new year coming. This has been an interesting year for me as an editor for the KEEPER. I feel a little like a personality, in that the Zoos that I have visited have had nothing but complimentary things to say about my column and a lot of praise about the KEEPER. My fellow professionals do not hesitate to talk about AAZK, zooing, and themselves. I believe we have finally hit on a good formula with the KEEPER. Zoo people realize that they have something that they can call their own; somebody is speaking up for them; this is what it is all about in the AAZK and especially the KEEPER. Because they feel that we are really getting it together, Keepers in our Zoo are rejoining AAZK. A couple of comments I have heard are, "Where was the KEEPER four years ago!" and "Keep up the good work!" So, I would like to say, let's make 1974 a super year for AAZK and an even better year for the KEEPER.

News from Lincoln Park Zoo

Again, a game of chess with Keepers; I moved from the Commissary to the Lion House as a Senior Keeper in charge, replacing Tony Martinez, who then took over as Senior Keeper in the Nursery. Marge Seymour left the Nursery to split her time. between the Bird House and swing shift. Art Miraldi is now in the Reptile House and Nursery. Di Shwartz, our newest Keeper and ninth girl, has replaced Pat Sammarco at the Farm-in-the-Zoo, Pat is now in the Reptile House, replacing Diana Penar, who has moved to the Children's Zoo. We would like to wish a speedy recovery to Jeff Taylor, Night Keeper, who was injured in an auto accident and is now home from the hospital. Bob Speck, in the car with Jeff, has already returned to work in the Bird House.

News from Topeka Zoo

Animal Keeper Vince Von Frese has left Topeka to accept a position as Elephant Keeper at the Tulsa Zoo in Tulsa, Oklahoma. (Thanks to Chris La Rue) The World Famous Topeka Zoo's largest waterfall in Kansas now has a geodesic dome for a roof. The Rain forest building will soon be complete, implementing many keeper ideas in its construction.

Please send any Keeper, animal or Zoo information to Larry Sammarco, 5206 N. Ludlam, Chicago, Illinois 60630, for publication.

SPECIAL AAZK COMMUNIQUE – by Dick Sweeney

Dear Members of AAZK:

Six years ago today, December 5, 1967, several San Diego Zoo keepers and myself met to form a local chapter of professional zoo keepers. Our goals were to stimulate a renewed interest in our purpose of caring for the captive animals in our charge. We were quick to realize that zoo keepers across the country might very well want to join in these efforts to strengthen the network of animal care personnel, which in turn would improve the future of the zoological park.

AAZK has endured some very trying times in its short life. We have been constantly plagued with insufficient operating funds, mainly because we have no outside support, and must depend on membership assessments. We have weathered critical attacks that are common to new ideas, and we have managed to maintain our initial goals of bringing a new attitude to the exhibits we tend.

AAZK has proved that it is a necessary part of the zoological family of trained personnel. We owe this success to your continued support. I am very proud to have been a part of its infancy, and I look forward to watching it grow into an adulthood equal to or surpassing AAZPA. That potential is there, and I have no doubt of it becoming a reality.

Happy Birthday AAZK!

Sincerely,

Richard G. Sweeney
Exec. Dir., AAZK Hq.

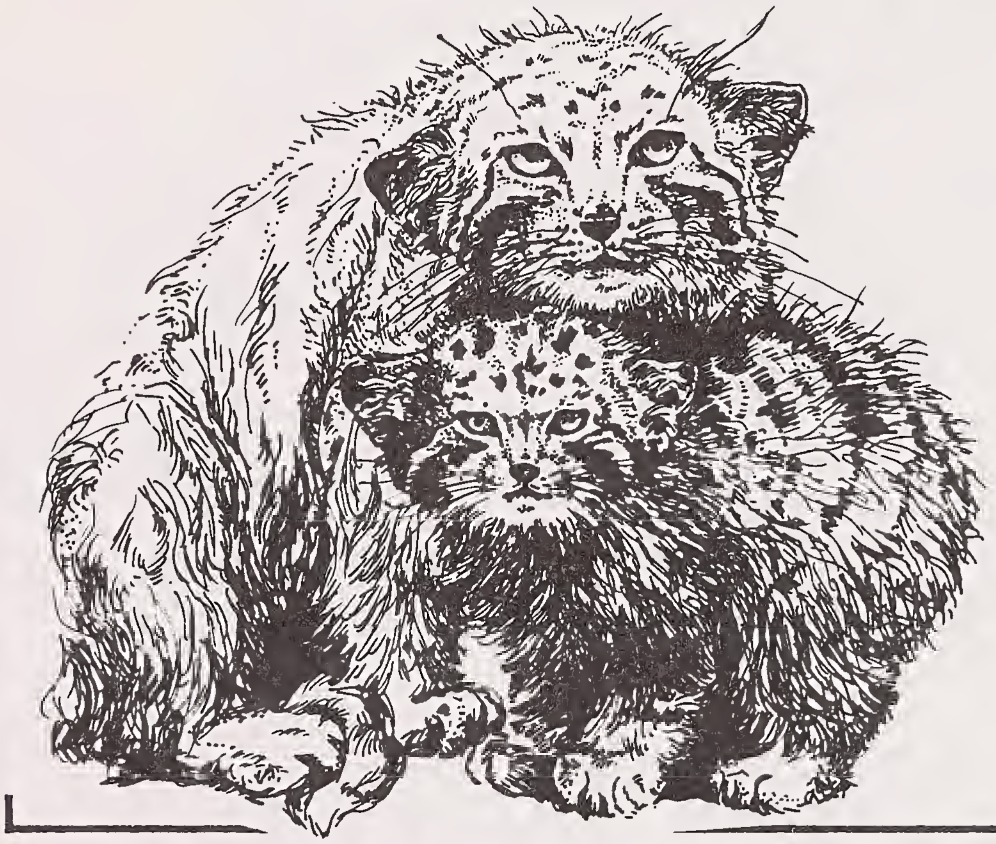

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Photo Contest – Prizes will be given for the best and the funniest picture. If you wish to enter the contest, bring one picture to the conference. Prizes will be awarded at the Banquet.

AAZK booster auction will be held on Banquet night. Bring to the Conference any new item which you will think animal people would be interested in. All proceeds will go for printing "THE KEEPER".

The staff of "THE KEEPER" will publish the Conference booklet and program. If you would like a booster ad, please contact Dewey Garvey, Editor, The Keeper, 186 W. Quincy, Riverside, Illinois 60546. Ads will be $1.00 for your name and zoo, and $15.00 for ¼-page ad in the Conference booklet.

Please send in your conference registration as early as you can!

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If you would like to present a paper or other type of program at Chicago, please contact Dennis Grimm, 204 Olmstead Road, Riverside, Illinois 60546.

Besides representing your zoo by attending, plan to have a picture poster of your zoo, to hang in the session room.

Hope to see you at the convention. Watch THE KEEPER for more details and information – 3 and more in '74.

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